

REPAIR GUIDELINE

CHAIN SAW_CS1400E



Version: 1

Issue Date: 2015/2/15

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Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Fail to start/stops in running	Weak connection of the white cable	Battery connection terminals (base)	Open the housing, check if the white cable that connects to the battery connection terminal was insufficiently soldered (weak connection), re-solder the cable and check the function.
	PCBA is broken	PCBA	Open the housing, replace the PCBA
	Big deviation of the speed sensor	Motor assembly	Open the housing, replace the motor assembly
No oil lubrication when cutting	Oiling hole in housing was blocked by debris	Oil hole in housing	Open the housing, clear the oil hole in housing.
	Oil pumper was blocked by oil residue	Oil tank assembly	Open the housing, replace the oil tank assembly
	Plastic gear was worn out	Plastic gear	Open the housing, replace the plastic gear; check and clear the oil hole in the housing.
Saw chain cannot or hard to move in guide bar	Guide bar was worn out	Guide bar	Replace the guide bar

Troubleshooting

Problem	Possible Cause	Fault Position	Test & Solution
Saw chains slides on the sprocket/big noise	The sprocket was worn out	Sprocket	Replace the sprocket
Noise	Motor bearing was worn out	Motor	Open the housing, replace the motor assembly

Tool List For Repair

NO.	Tool List	SPEC	Remark
1	Magnetic bits		
2	Electric soldering iron		
3	Heat gun		
4	Heat shrinkable sleeves		
5	Silicon glue		Assist fixing the plug
6	Scissors		To remove the shrinkable sleeve
7	Snap ring pliers		To remove the E-ring

Disassemble the Product

- 1. Remove the side cover, saw chain and guide bar from the chain saw;



Description	Part Number	SPEC
Side cover assembly	2823860000	---
Saw Chain	3810637000	90PX052X (Oregon)
Guide Bar	3705657000	144MLEA041 (Oregon) 350mm (14")

Disassemble the Product

2. Remove the E-ring, Gasket and Sprocket from the motor shaft.



Description	Part Number	SPEC
E-Ring	5660028000	
Gasket	5660208000	
Sprocket	3421564000	

Disassemble the Product

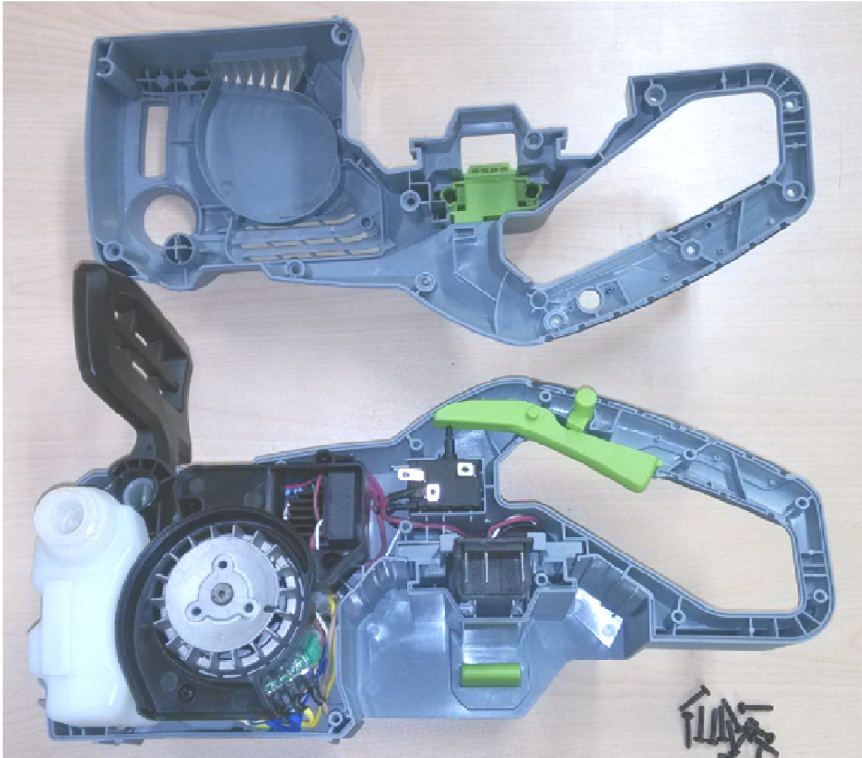
3. Loose the four screws to remove the front handle from the housing.



Description	Part Number	Quantity
Tapping screw	5610042000	4 pcs
Front Handle	3127504000	

Disassemble the Product

- 4. Remove the oil tank and loosen the screws in housing, total 12 pcs.
- 5. Open the housing.



Description	Part Number	Quantity
Tapping screw	5610042000	12 pcs

Replace the PCBA

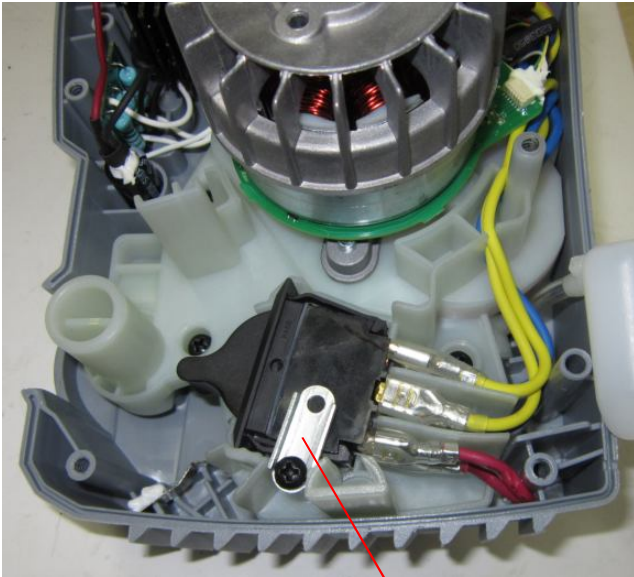
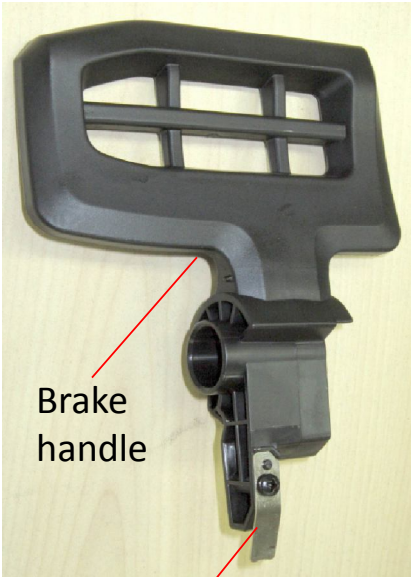
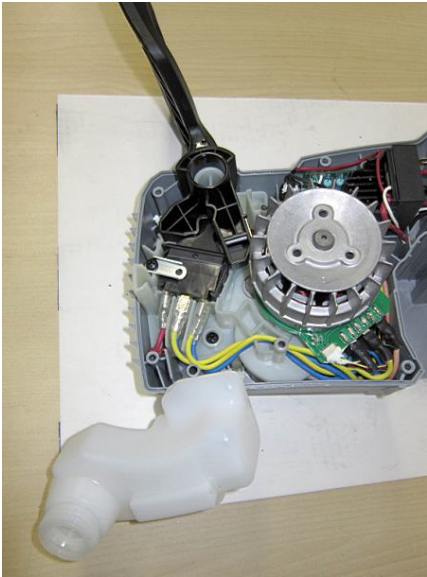
- 1. Loosen the screws in fan baffle and remove the fan baffle from the motor.



Description	Part Number	Quantity
Tapping screw	5610042000	4 pcs
Fan baffle	3127502000	

Replace the PCBA

- 2. Move the oil tank aside; Remove the brake handle assembly.
- 3. Loosen the screw in the clamp and remove the clamp from the switch.



Brake handle

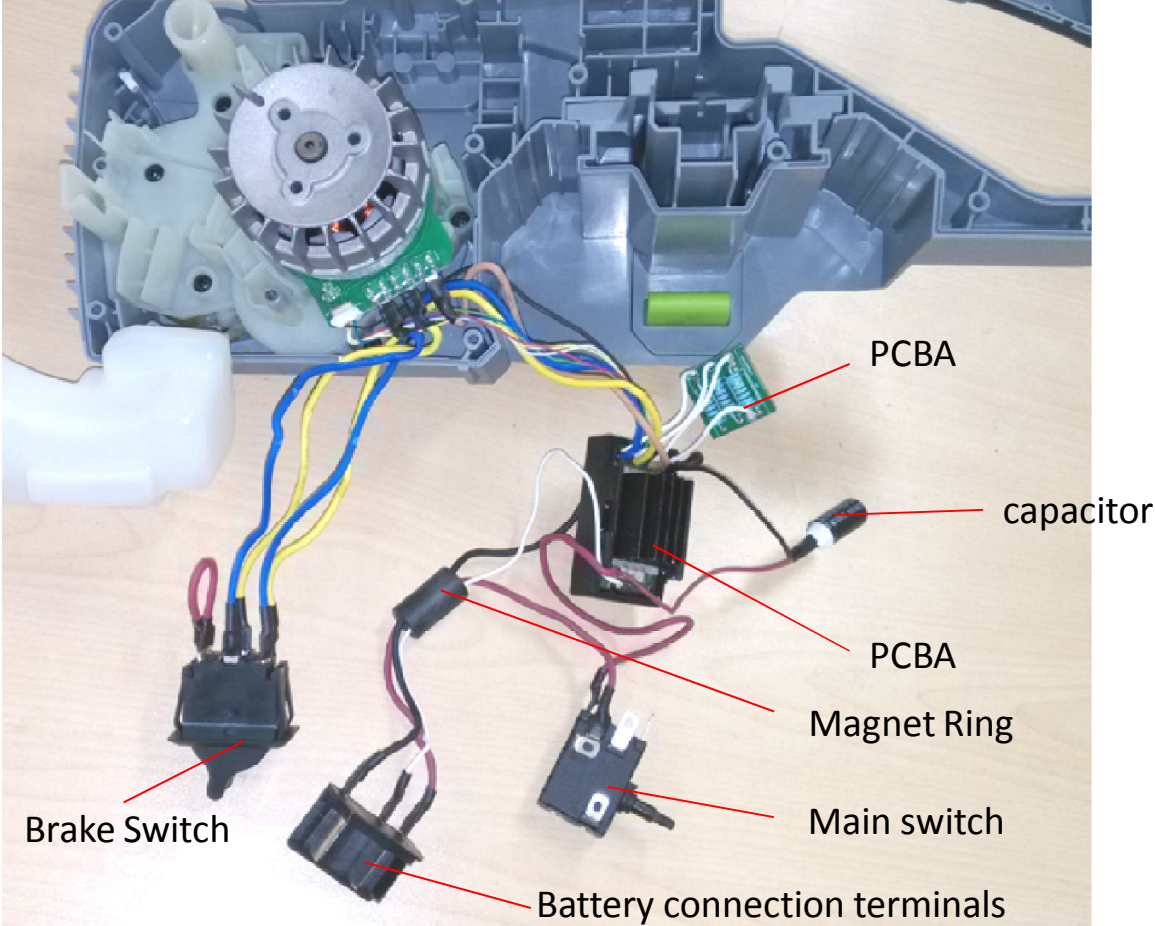
Brake Piece

Clamp

Description	Part Number	SPEC
Brake handle	3402731000	
Brake Piece	3705658000	
Clamp	3700367000	
Tapping screw	5610042000	

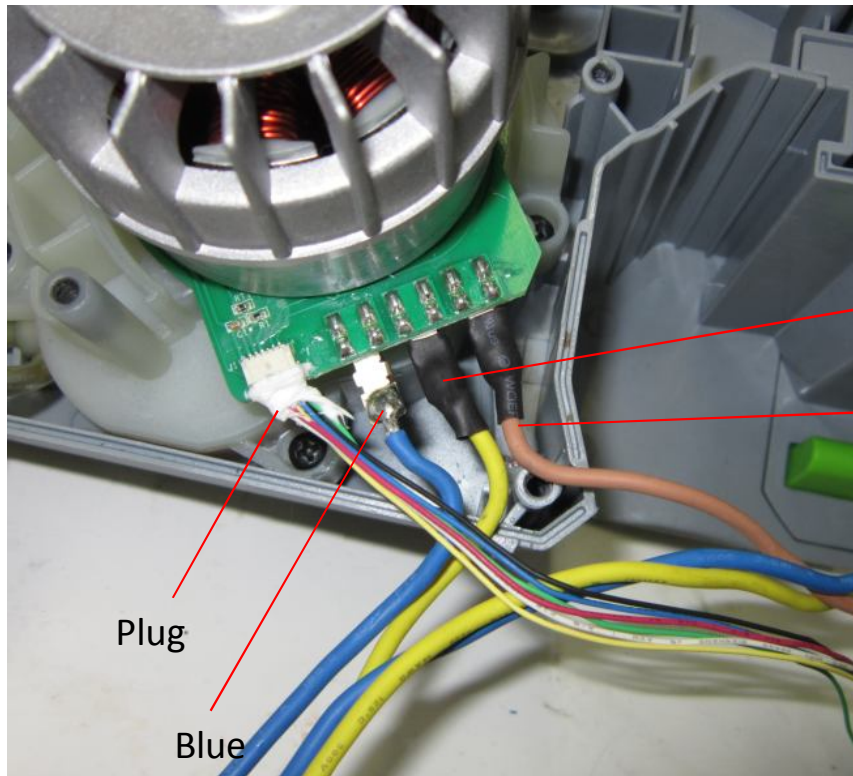
Replace the PCBA

- 4. Carefully remove the PCBA (including main switch, brake switch, battery connection terminals, PCBA, capacitor and cables from the housing)



Replace the PCBA

5. Remove the heat-shrinkable sleeves from the Motor PCBA connection terminals.
6. Disconnect the three cable connections with a soldering iron.
7. Remove the glue on the plug surface and disconnect the plug from PCBA.
8. Remove the whole PCBA from Motor, Replace the PCBA if it is broken.

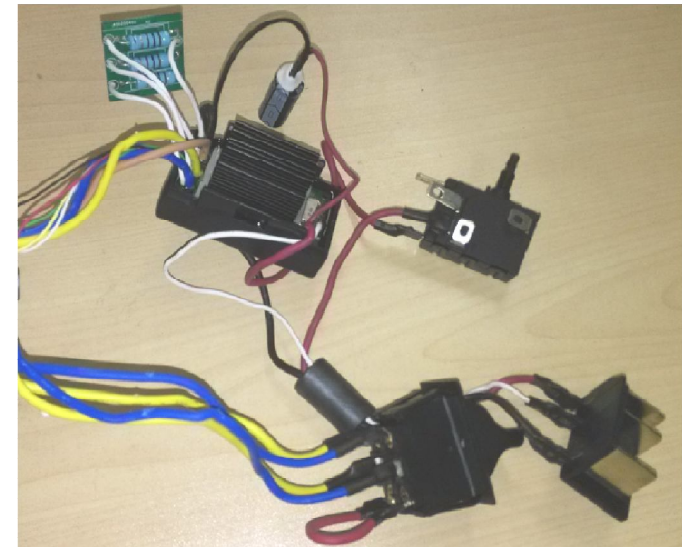


Plug

Blue

Yellow

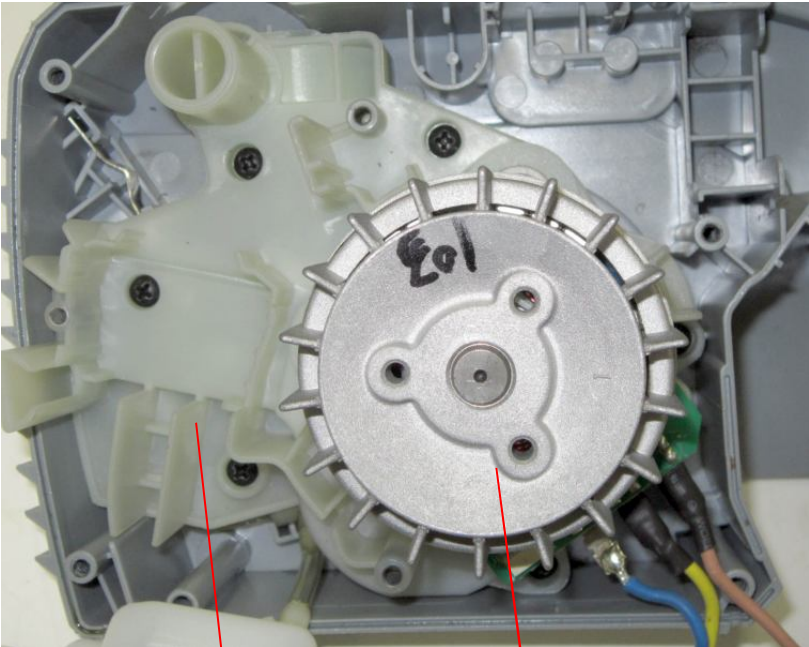
Brown



Description	Part Number
PCBA	2830085000

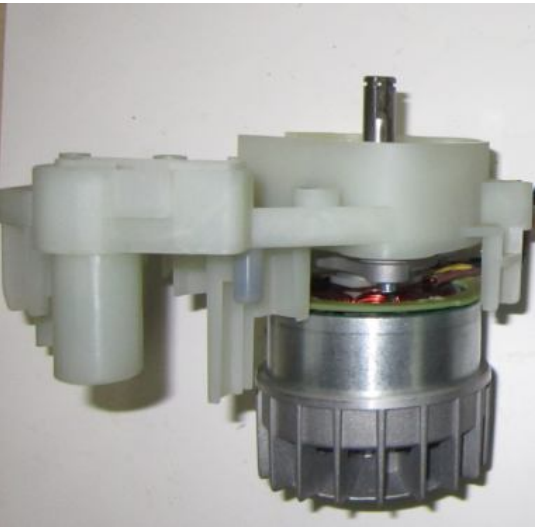
Replace the Motor

- 1. Remove the E-ring, Gasket and Sprocket from the motor shaft, see Page 7.
- 2. Disconnect the PCBA from motor, see Page 10-13.
- 3. Loosen the screws in motor support and remove the motor assembly together with motor support from the right housing.



Motor support

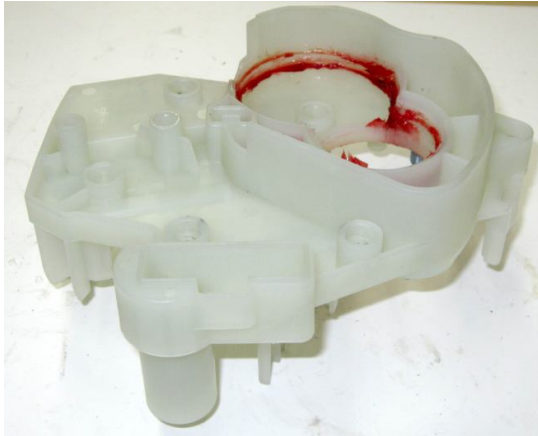
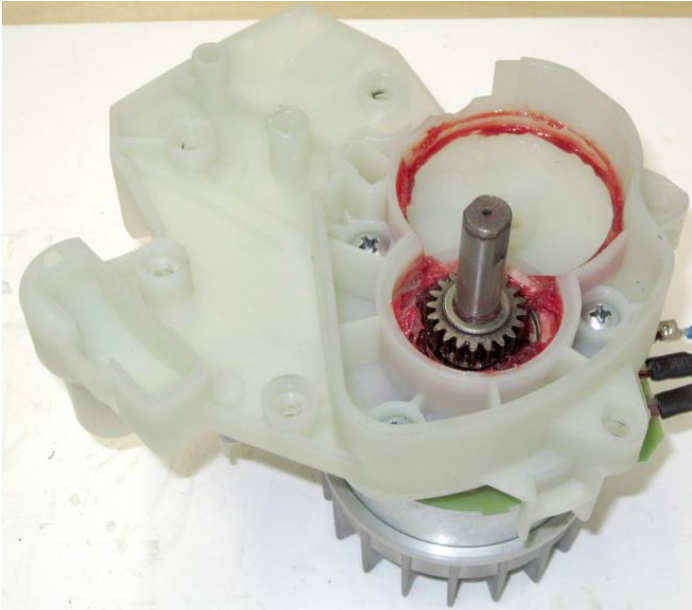
Motor



Description	Part Number	Quantity
Motor support	3127503000	
Tamping screw	5610042000	6 pcs

Replace the Motor

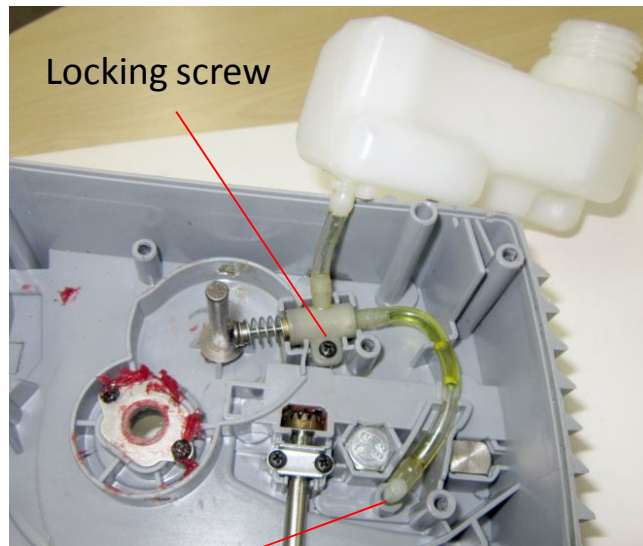
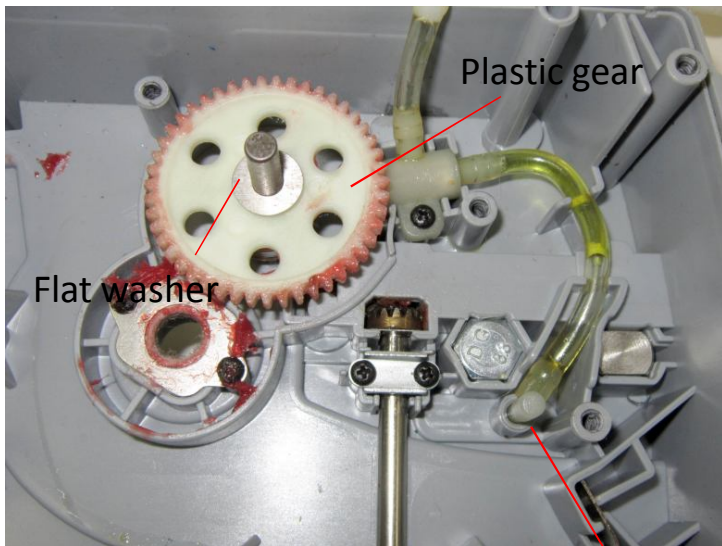
- 4. Loosen the screws in the motor support and take out the support from the motor.
- 5. Replace the motor if the it is broken.



Description	Part Number	Quantity
Motor support	3127503000	
Motor assembly	2823855000	
Screw	5620051000	3 pcs

Replace the Oil Tank Assembly

1. Remove the flat washer and plastic gear from the pin.
2. Pull the oil outlet out of the housing.
3. Loosen the locking screw and take out the oil tank assembly.
4. Replace the oil tank assembly if it leaks or no oil is drained out.

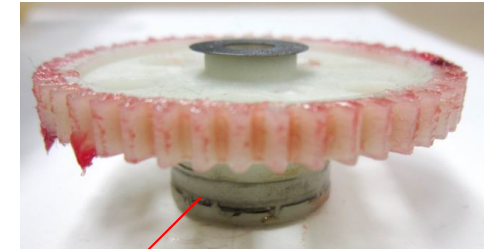


Oil outlet

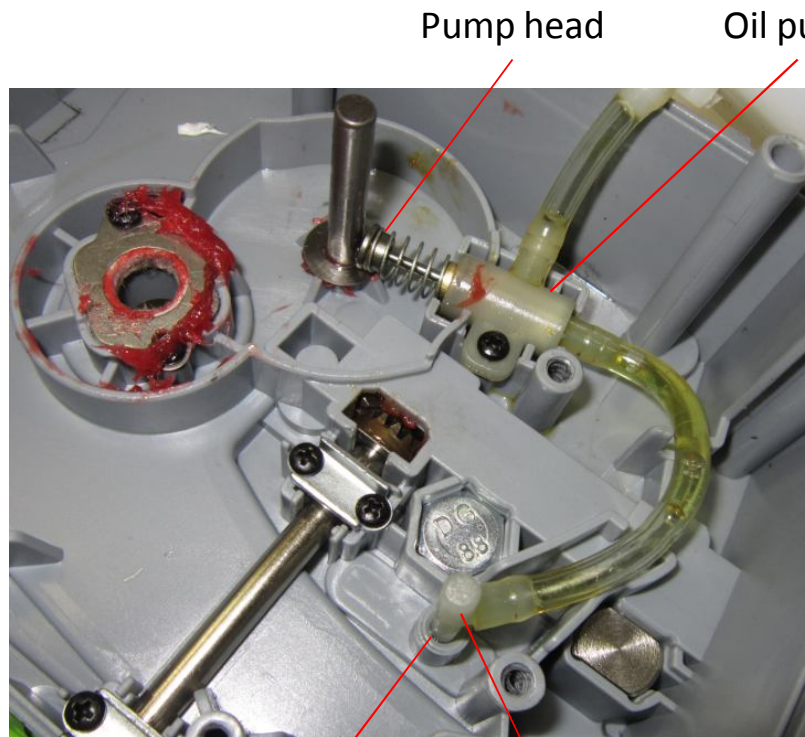
Description	Part Number
Oil tank assembly	2823933000
Tapping Screw	5610011000

Assemble the Product

1. Insert the oil outlet into the oil hole of the housing.
2. Lock the oil pump in the housing with screw.
3. Mount the plastic gear onto the pin, make sure the eccentric downwards

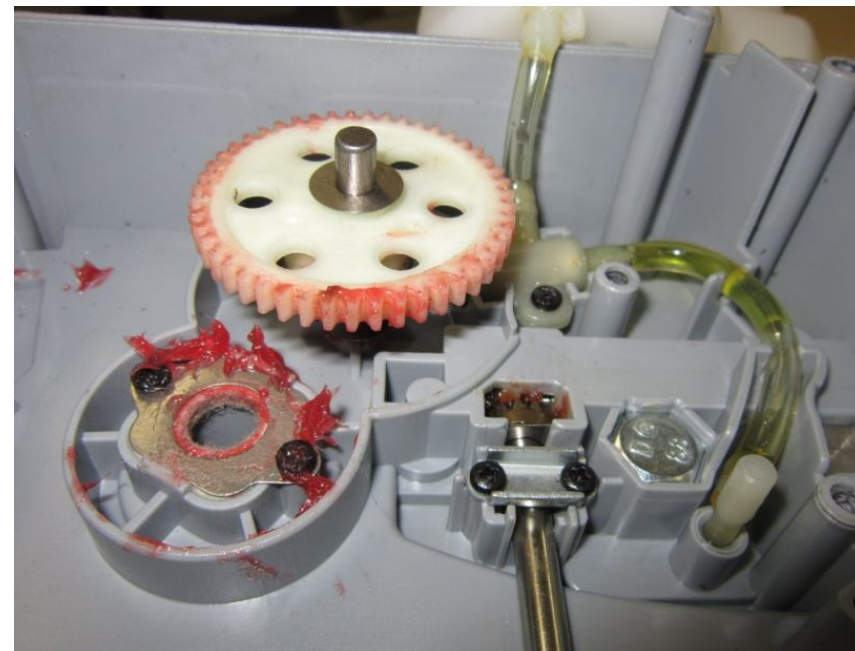


Eccenter



Pump head

Oil pump

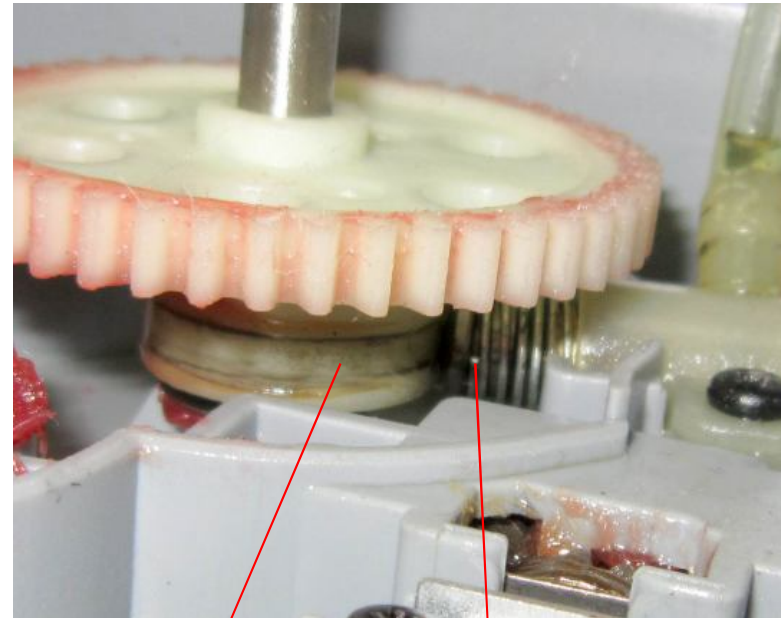
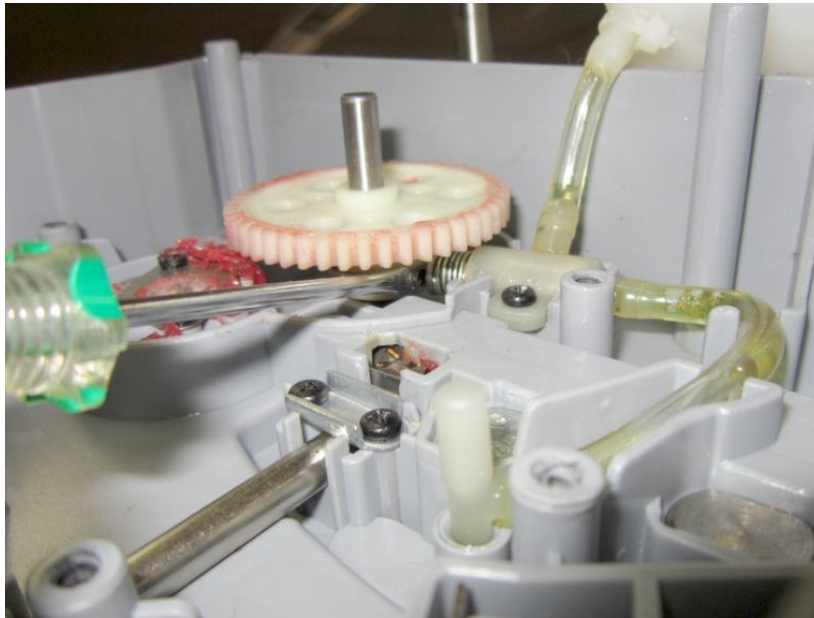


Oil hole

Oil outlet

Assemble the Product

4. Use a slotted screwdriver to push the pump head, make sure the pump head rests against the eccentric of the plastic gear.

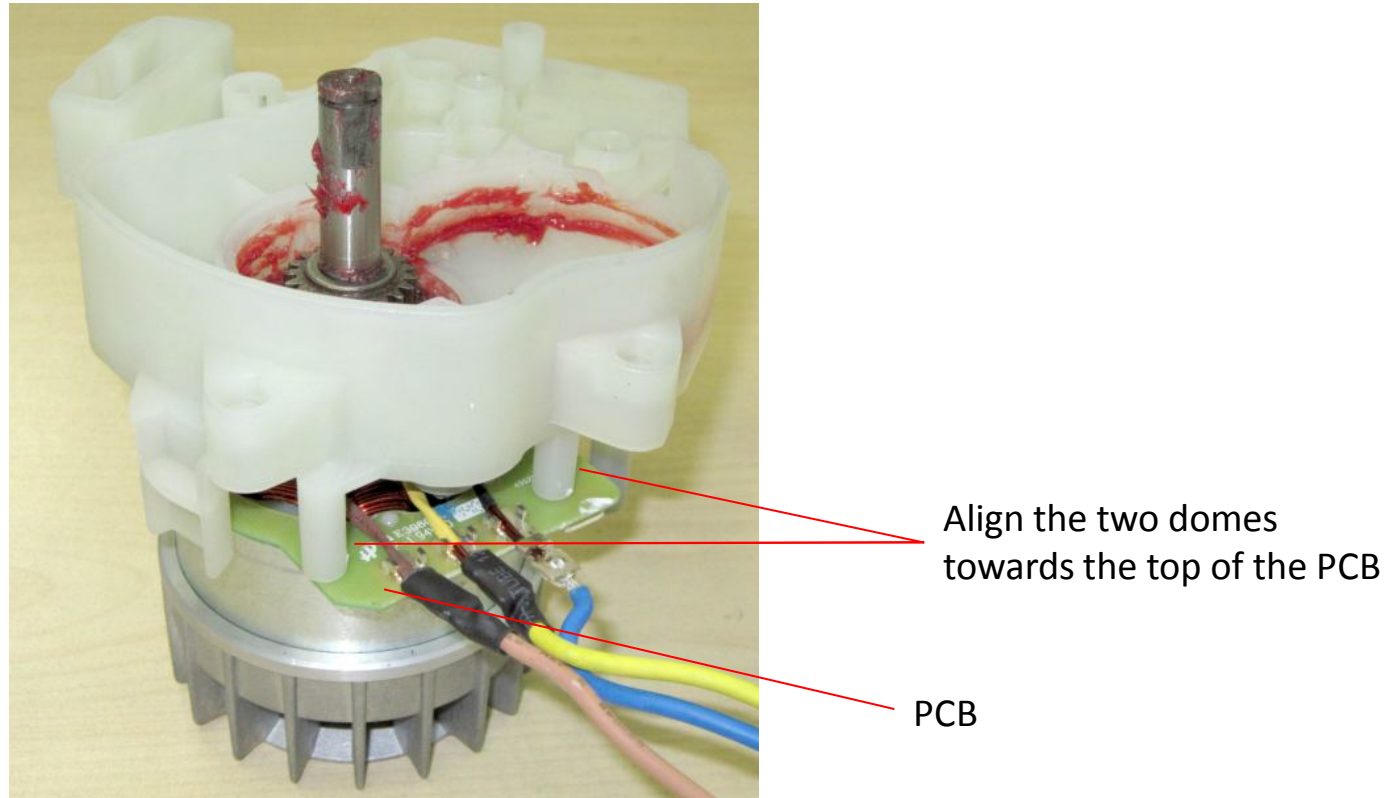


Eccenter

Bump head

Assemble the Product

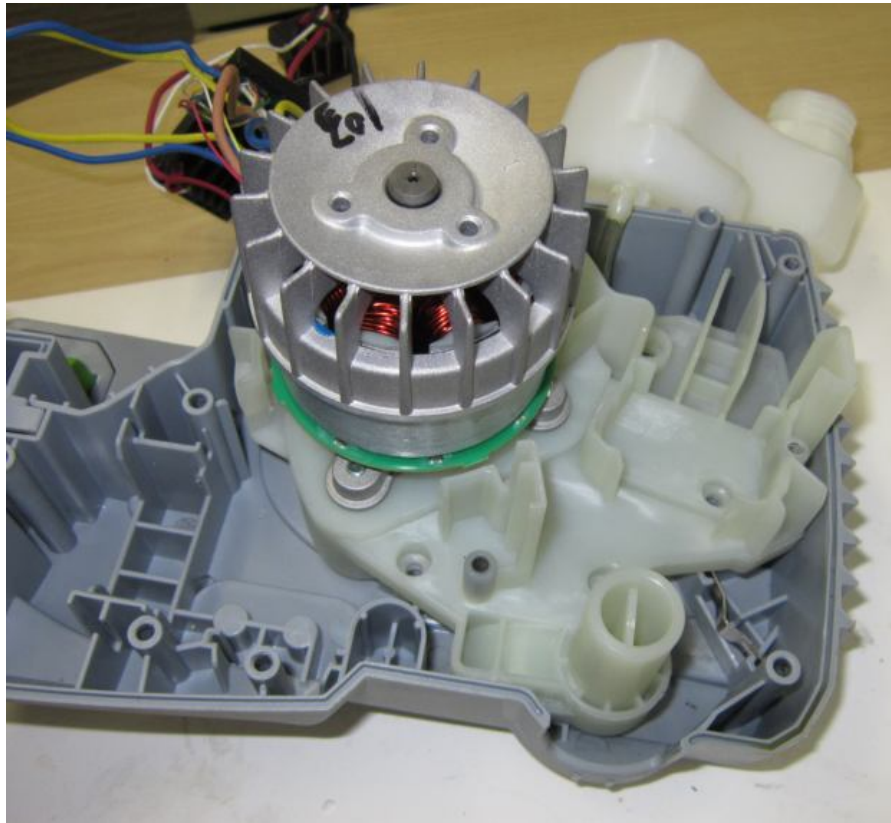
5. Align the motor support with the motor mounting holes and lock it onto the motor with 3 screws.



Description	Part Number	Quantity
Screw	5620051000	3 pcs

Assemble the Product

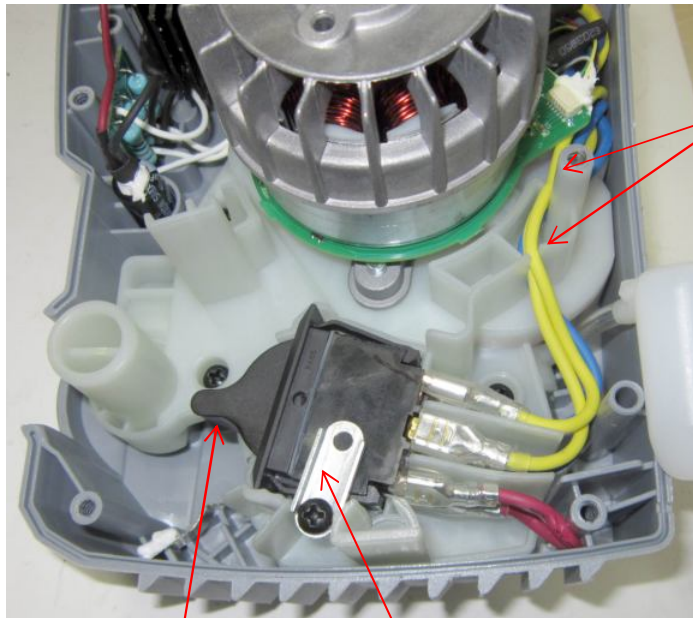
6. Align the motor support and motor with the right housing and position it in place. Lock the motor support with 6 screws.



Description	Part Number	Quantity
Tamping screw	5610042000	6 pcs

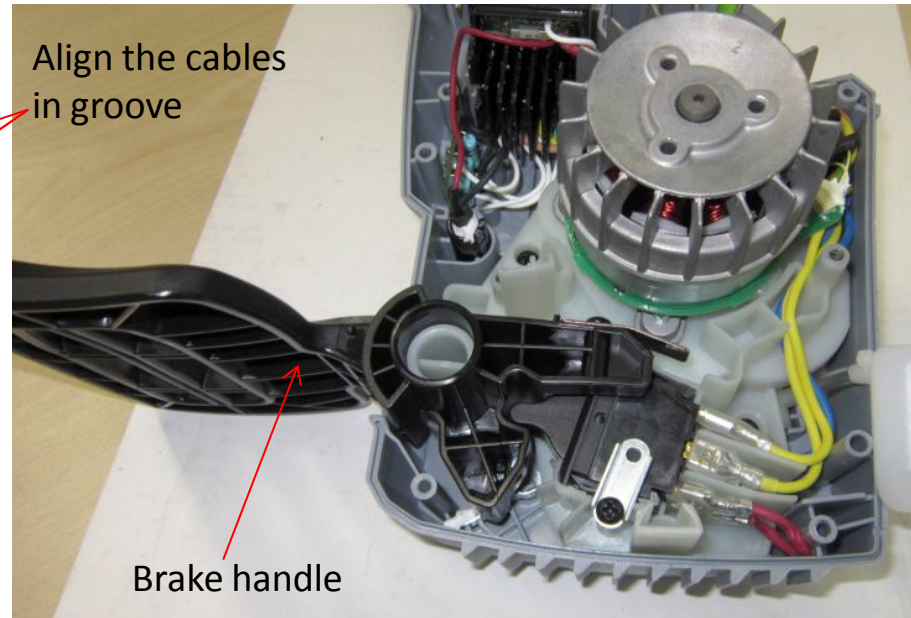
Assemble the Product

7. Fix the brake switch in housing, lock the switch with the clamp.
8. Move the trigger to the left and mount the brake handle in position.
9. Move the brake handle to test the brake function (mechanical function)



Move the trigger to the left

Clamp



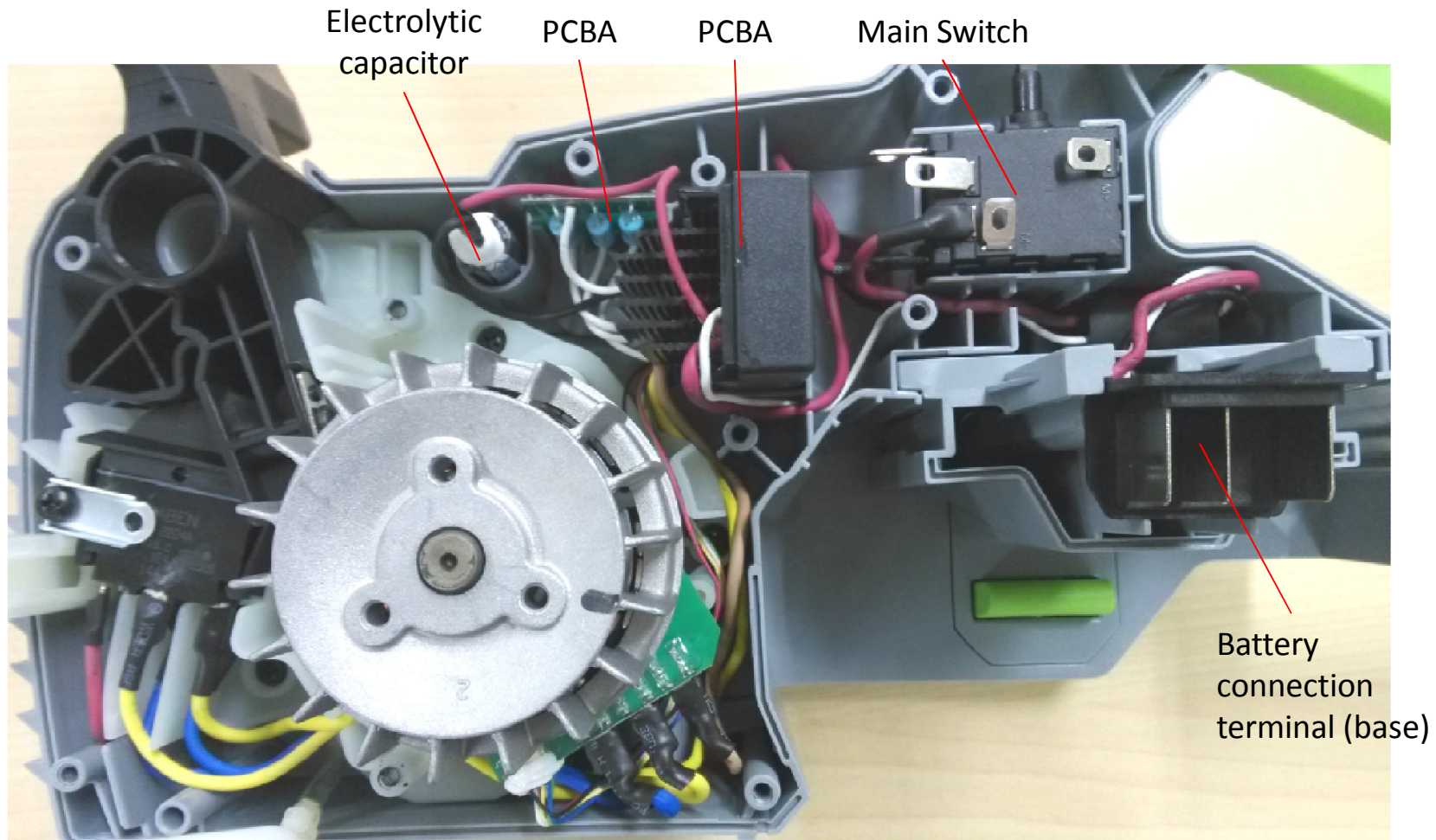
Align the cables in groove

Brake handle

Description	Part Number	Quantity
Clamp	3700367000	
Tapping screw	5610042000	1

Assemble the Product

10. Align the cables in the grooves and fix the PCBA, capacity, main switch, battery connection terminal in the housing.

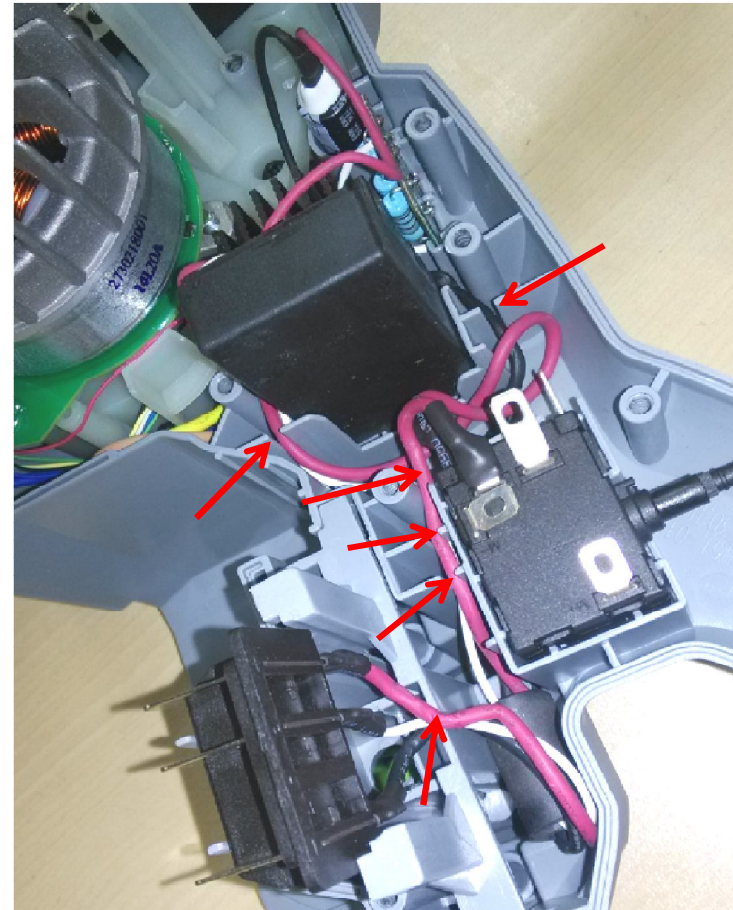
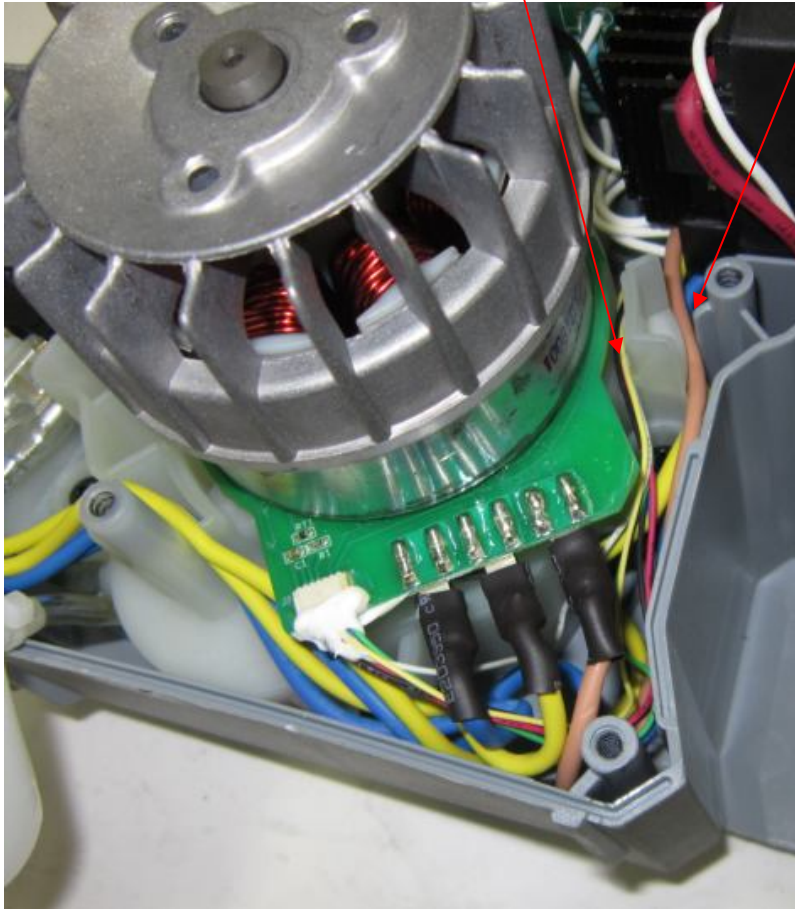


Assemble the Product

Cable alignment

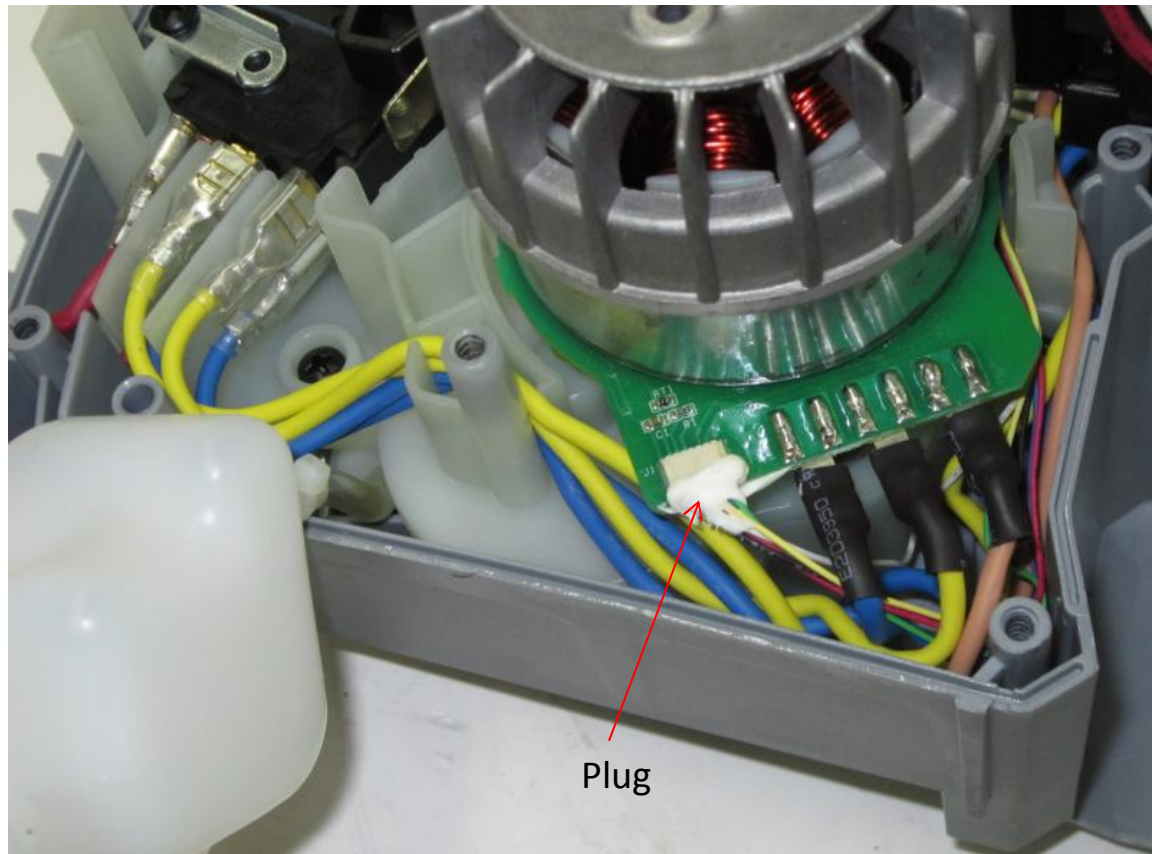
Thin cables in
this groove

Thick cables in
this groove



Assemble the Product

11. Connect the plug to the socket on the motor PCBA . Apply some silicon glue around the plug to protect it from loosening in use.

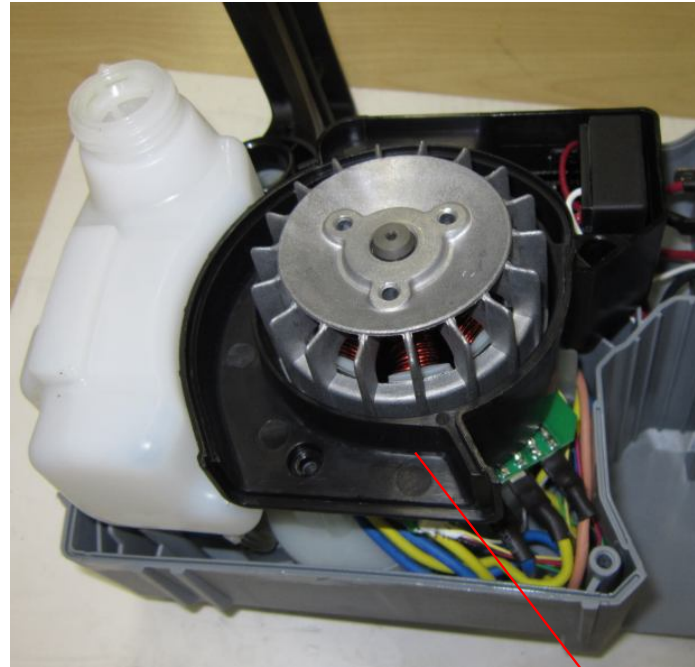


Assemble the Product

- 12. Move the oil tank to the position as the figure shown below.
- 13. Mount the fan baffle to the motor and lock it with 4 screws.



Oil tank assembly



Fan baffle

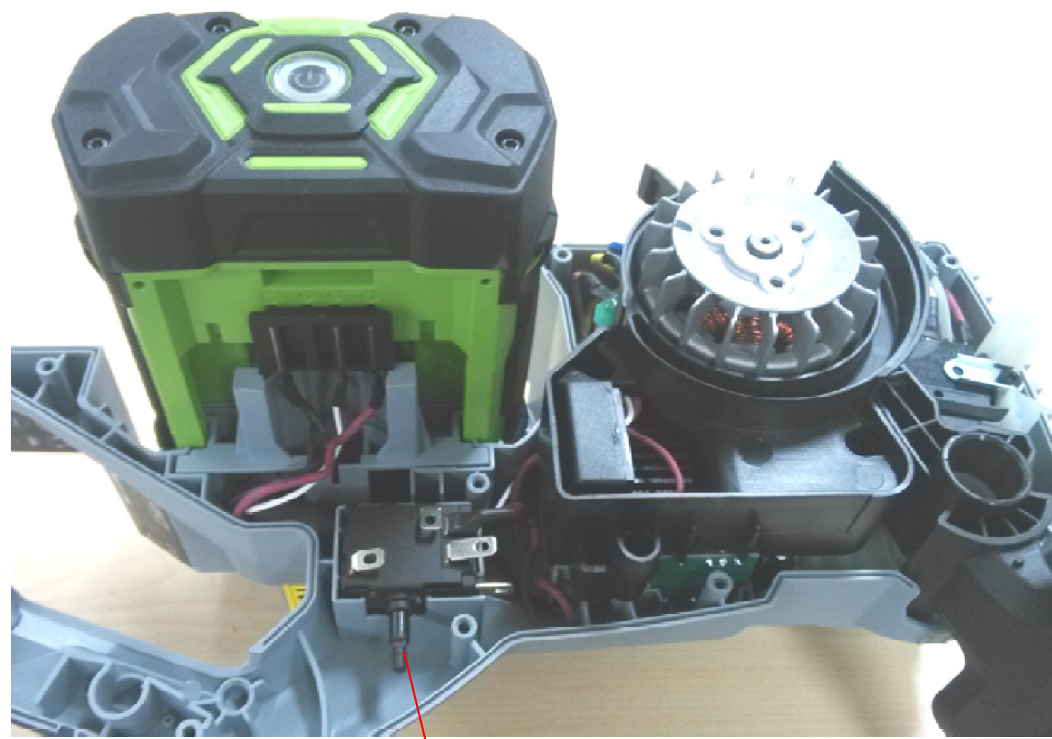
Description	Part Number	Quantity
Tapping screw	5610042000	4 pcs
Fan baffle	3127502000	

Assemble the Product

14. Test the chain saw before closing the housing.
 - (1) Move the brake handle to the unlock position
 - (2) Mount a EGO battery onto the connection base
 - (3) Press the main switch and check if the motor runs.



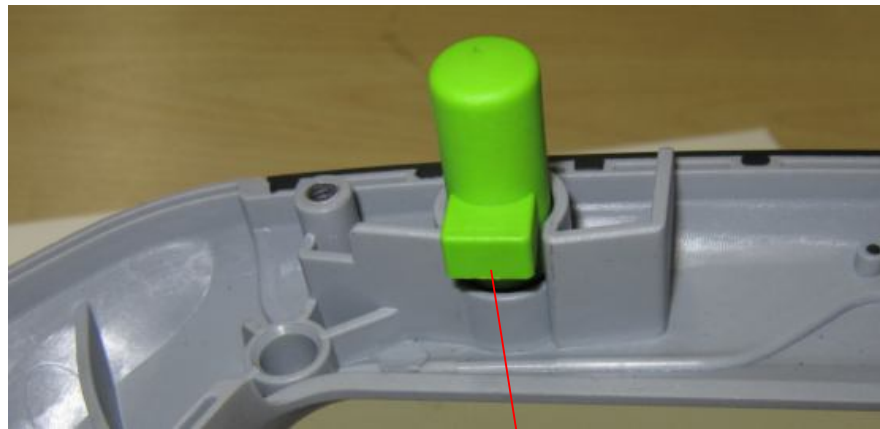
Unlock position



Press the switch to test

Assemble the Product

- 15. Fix the lock-off button into the mounting hole in the handle.
- 16. Fix the trigger in the handle.



Lock-off button



Trigger

Description	Part Number
Switch Trigger	3127496000
Lock off Button	3127495000
Spring	3660427000

Assemble the Product

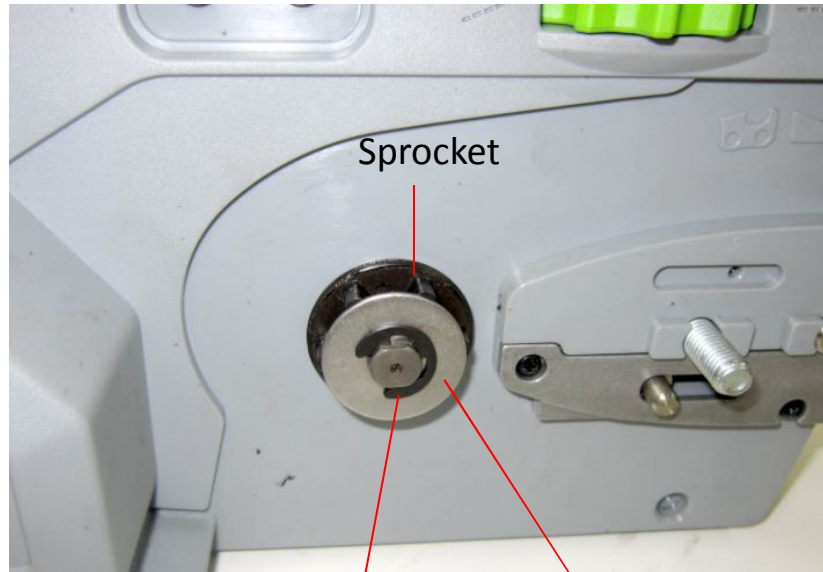
- 17. Close the housing and lock with 12 pcs tapping screws.
- 18. Mount the front handle to the housings and lock with 4 pcs tapping screws.
- 19. tighten the oil cap.



Description	Part Number	Quantity
Tapping screw	5610042000	12 pcs

Assemble the Product

20. Mount the Sprocket, flat gasket onto the motor shaft and lock with E-ring.



E-ring

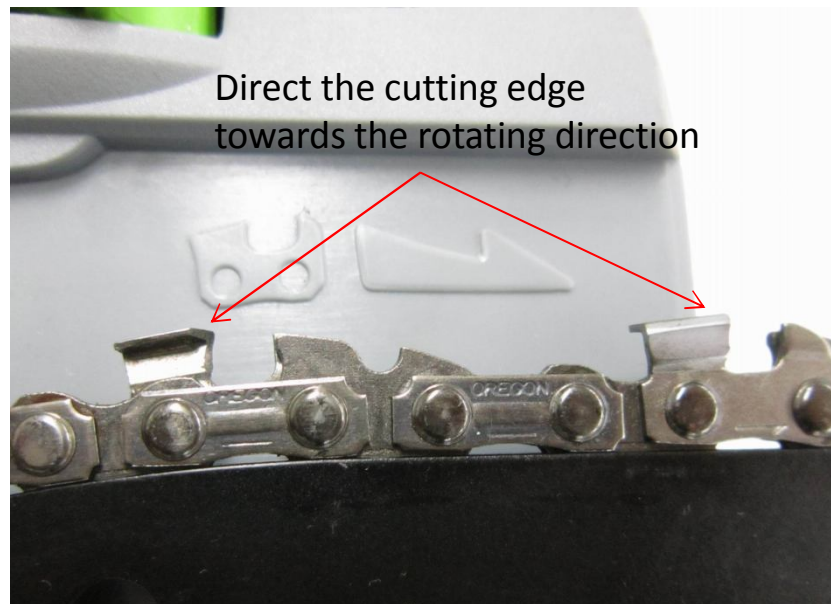
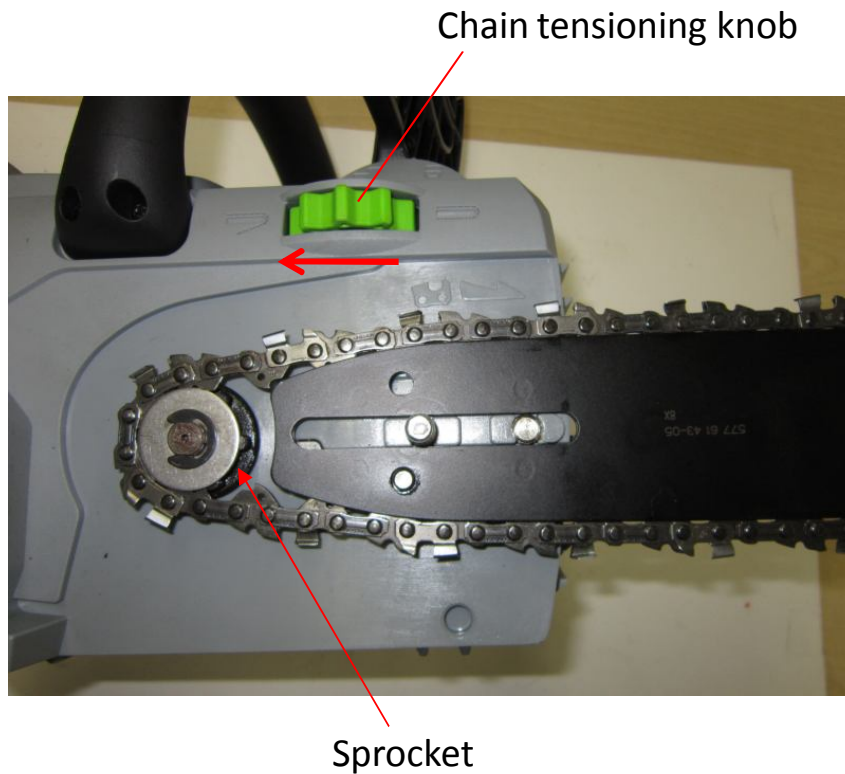
Flat gasket

Description	Part Number
E-Ring	5660028000
Gasket	5660208000
Sprocket	3421564000

Assemble the Product

21. Assemble the guide bar and saw chain:

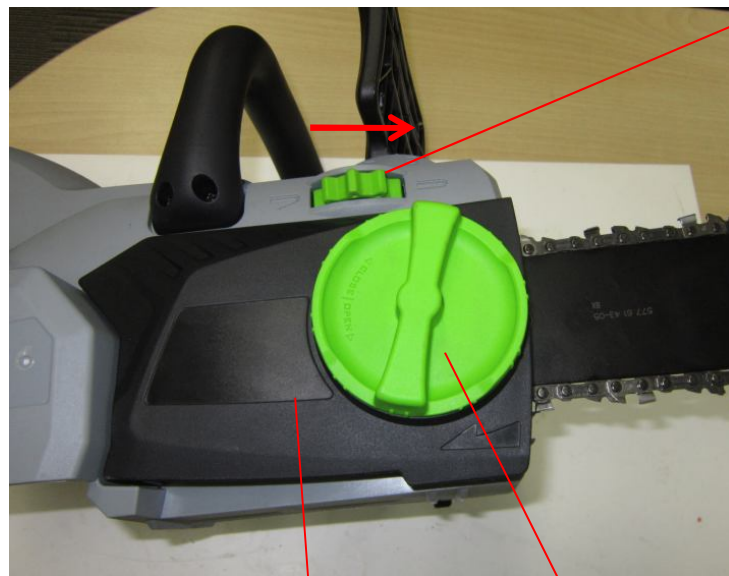
- (1) Turn the chain tensioning knob towards the front handle as far as it will go.
- (2) Place the chain drive links into the guide bar groove.
- (3) Hold the chain in position on the guide bar and place the loop around the sprocket.



Assemble the Product

21. Assemble the guide bar and saw chain:

- (4) Close the side cover and tighten the side cover knob by turning it clockwise.
- (5) Remove all the sawdust from the chain by turning the chain tensioning knob clockwise until the chain seats snugly against the guide bar with the drive links in the guide bar groove.
- (6) Tighten the side cover knob securely.
- Follow the instructions in operating manual for detailed assembly and chain tension adjustment procedures.



Chain tensioning knob



Side cover

Side cover knob